

What is Claimed is:

1. A flow completion system for controlling the flow of fluid from a well bore, the flow completion system comprising:

5 a tubing spool which includes a central bore that extends axially therethrough and a production outlet which communicates with the central bore;

a tubing hanger which is supported in the central bore and which includes a production bore that extends axially therethrough and a production passageway that communicates between the production bore and the production outlet;

10 a first closure member which is positioned in the production bore above the production passageway;

a first metal seal which is positioned concentrically between the tubing hanger and the central bore above the production passageway;

15 wherein the first closure member and the first seal comprise a first pressure-containing barrier between the well bore and a surrounding environment;

a second closure member which is positioned in the production bore above the first closure member; and

20 a second metal seal which is positioned concentrically between the tubing hanger and the central bore above the first seal;

wherein the second closure member and the second seal comprise a second pressure-containing barrier between the well bore and the environment.

2. The flow completion system of claim 1, wherein each of the first and second closure members comprises a metal seal which sealingly engages the production bore.

3. The flow completion system of claim 1, wherein each of the first  
5 and second closure members comprises a wireline deployable plug.

4. The flow completion system of claim 3, wherein each of the wireline plugs comprises a metal seal which sealingly engages the production bore.

5. The flow completion system of claim 1, wherein the tubing spool comprises an annulus passageway which communicates with a tubing annulus.

10 6. The flow completion system of claim 5, wherein the tubing spool comprises a workover passageway which provides for fluid communication between the annulus passageway and a portion of the central bore that is located above the second seal.

7. The flow completion system of claim 6, further comprising a  
15 crossover line which provides for fluid communication between the production outlet and at least one of the annulus passageway and the workover passageway.

8. The flow completion system of claim 1, wherein the second  
pressure-containing barrier comprises the uppermost pressure-containing barrier  
20 between the well bore and the environment during the production mode of operation of the flow completion system.

9. The flow completion system of claim 8, wherein the tubing spool comprises an annulus passageway which communicates with a tubing annulus.

10. The flow completion system of claim 9, wherein the tubing spool comprises a workover passageway which provides for fluid communication between the annulus passageway and a portion of the central bore that is located above the second seal.

5 11. The flow completion system of claim 10, further comprising a crossover line which provides for fluid communication between the production outlet and at least one of the annulus passageway and the workover passageway.

10 12. A flow completion system for controlling the flow of fluid from a well bore, the flow completion system comprising:

a tubing spool which includes a central bore that extends axially therethrough, a production outlet which communicates with the central bore, and an annulus bore which communicates with a tubing annulus;

15 a tubing hanger which is supported in the central bore and which includes a production bore that extends axially therethrough and a production passageway that communicates between the production bore and the production outlet;

a first closure member which is positioned in the production bore above the production passageway;

20 a first seal which is positioned concentrically between the tubing hanger and the central bore above the production passageway;

wherein the first closure member and the first seal comprise a first pressure-containing barrier between the well bore and a surrounding environment;

a second closure member which is positioned in the production  
5 bore above the first closure member;

a second seal which is positioned concentrically between the tubing hanger and the central bore above the first seal;

wherein the second closure member and the second seal comprise a second pressure-containing barrier between the well bore and the environment;

10 wherein the second pressure-containing barrier comprises the uppermost pressure-containing barrier between the well bore and the environment during the production mode of operation of the flow completion system;

wherein the tubing spool further comprises a workover passageway  
15 which provides for fluid communication between the annulus passageway and a portion of the central bore that is located above the second seal.

13. The flow completion system of claim 12, wherein each of the first and second closure members comprises a wireline deployable plug.

14. The flow completion system of claim 13, wherein each of the  
20 wireline plugs comprises a metal seal which sealingly engages the production bore.

15. The flow completion system of claim 12, wherein each of the first and second seals comprises a metal seal.

16. The flow completion system of claim 12, further comprising a third closure member for controlling fluid flow through the workover passageway.

17. The flow completion system of claim 16, further comprising a fourth closure member for controlling fluid flow through the annulus passageway.

5 18. The flow completion system of claim 17, wherein at least one of the third and fourth closure members comprises a gate valve.

19. The flow completion system of claim 12, further comprising a crossover line which provides for fluid communication between the production outlet and at least one of the annulus passageway and the workover  
10 passageway.

20. The flow completion system of claim 19, further comprising a fifth closure member for controlling fluid flow through the crossover line.

21. The flow completion system of claim 20, wherein the fifth closure member comprises a gate valve.

15 22. A method for completing a subsea well which comprises a wellhead housing at an upper end of a well bore, the method comprising:

installing a tubing spool over the wellhead housing, the tubing spool including a central bore which extends axially therethrough, a production outlet which communicates with the central bore, and an annulus bore which is  
20 configured to communicate with a tubing annulus;

landing a tubing hanger in the central bore, the tubing hanger including a production bore which extends axially therethrough and a production

passageway which communicates between the production bore and the production outlet;

establishing at least first and second metal-to-metal seals between the tubing hanger and the central bore above the production passageway; and

5 installing at least first and second closure members in the production bore above the production passageway.

23. The method of claim 22, wherein one of the metal-to-metal seals and one of the closure members define an uppermost pressure-containing barrier between the well bore and a surrounding environment during the production  
10 mode of operation of the tubing spool.

24. The method of claim 23, wherein the tubing spool further comprises a workover passageway which provides for fluid communication between the annulus passageway and a portion of the central bore that is located above the uppermost pressure-containing barrier.

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